Please find below and/or attached an Office communication concerning this application or proceeding.

	Application No.	Applicant(s)
Office Action Summary	09/540,637	BRADLEY ET AL.
	Examiner	Art Unit	
	GWEN LIANG	2172	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
  after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
  earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____ .

2a)☐ This action is **FINAL.**   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is
closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-23* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-23* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

    If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All b)☐ Some * c)☐ None of:

        1.☐ Certified copies of the priority documents have been received.

        2.☐ Certified copies of the priority documents have been received in Application No. _____ .

        3.☐ Copies of the certified copies of the priority documents have been received in this National Stage
application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

    a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)	4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)	5) ☐ Notice of Informal Patent Application (PTO-152)
3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) *6* .	6) ☐ Other: .

DETAILED ACTION

Claim Rejections - 35 USC § 103

1.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in
> section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are
> such that the subject matter as a whole would have been obvious at the time the invention was made to a person
> having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the
> manner in which the invention was made.

2.   Claims 1-6, 8-17, 19-21, 23 are rejected under 35 U.S.C. 103(a) as being unpatentable

over Breeese et al., "Breeese" (Empirical Analysis of Predictive Algorithms for Collaborative

Filtering).

With respect to claim 1, Breeese discloses a method comprising:

based on the plurality of groups, determining a predicted vote for a particular record and

a particular item using a similarity scoring approach (See for example: Section 1. Introduction,

paragraph 1, wherein the preference patterns of other users who have similar interests are used to

find content of interest to a user; Section 2. Collaborative filtering Algorithms, paragraph 1;

Section 2.1 Memory-Based Algorithms.); and,

outputting the predicted vote for the particular record and the particular item (See for

example: Section 3.1 Evaluation Criteria paragraphs 1-3, wherein each piece of content has an

associated estimated rating,, and the user interface displays this estimate.)

Breeese does not explicitly teach "consolidating data organized into records and items,

such that each record has a value for each item, into a plurality of groups".

However, the teaching of this feature is obvious in Breeese (See for example: Section 2.1

Memory-Based Algorithms, wherein the user database consists of a set of votes $V_{i,j}$,

corresponding to the vote for user i on item j; therefore it is obvious that the data is organization

into records (corresponding to users) and items and each record has a value (e.g. vote) for each

item; Section 2.3.1 Cluster Models, paragraph 1, wherein the prediction is derived from a

database of user votes from a sample or population of other users, which illustrates the existence

of plurality of groups in the database)

It would have been obvious to one having ordinary skill in the art at the time the

invention was made to incorporate the method of "consolidating data organized into records and

items, such that each record has a value for each item, into a plurality of groups" into the other

features in the method as taught in Breeese to provide memory-based collaborative filtering

algorithms for predicting the votes of the active user based on a some partial information

regarding the active user and a set of weights calculated from other users in the user

database(See for example: Section 2.1 Memory-Based algorithms paragraph 2). One of ordinary

skill in the art would be motivated to make the aforementioned combination with reasonable

expectation of success.

Claim 2 is rejected for the reasons set forth hereinabove for claim 1 and furthermore

Breeese teaches a method wherein consolidating the data into the plurality of groups comprises

consolidating the data into a plurality of clusters (See for example: Section 2.3.1 Cluster Models,

paragraph 1).

Claim 3 is rejected for the reasons set forth hereinabove for claim 1 and furthermore

Breeese teaches a method wherein consolidating the data into the plurality of groups comprises

consolidating the data into a plurality of descriptors (See for example: Section 2.2.1 Default

Voting, paragraph 3; Section 3.1 Evaluation Criteria, paragraphs 6 and 7; Section 3.2 Datasets,

paragraph 3).

Claim 4 is rejected for the reasons set forth hereinabove for claim 1 and furthermore

Breeese teaches a method wherein each record is referred to as at least one of: a row, and a user

(See for example: Section 2 Collaborative Filtering Algorithms, paragraph 2; Section 2.1

Memory-Based Algorithms; Section 2.1.2 Vector Similarity).

Claim 5 is rejected for the reasons set forth hereinabove for claim 1 and furthermore

Breeese teaches a method wherein each item is referred to as at least one of: a column, and a

dimension (See for example: Section 2 Collaborative Filtering Algorithms, paragraph 2; Section

2.1 Memory-Based Algorithms).

Claim 6 is rejected for the reasons set forth hereinabove for claim 1 and furthermore

Breeese teaches a method wherein each record comprises a user, and each item comprises a

product, such that determining the predicted vote for the particular record and the particular item

comprises determining whether a particular user will purchase a particular product (See for

example: Abstract, paragraph 1; Section 2 Collaborative Filtering Algorithms, paragraph 1).

Claim 8 is rejected for the reasons set forth hereinabove for claim 1 and furthermore

Breeese teaches a method wherein the similarity scoring approach comprises a likelihood

similarity scoring approach (See for example: Section 1 Introduction, paragraph 2).

Claim 9 is rejected for the reasons set forth hereinabove for claim 1 and furthermore

Breeese teaches a method wherein the similarity scoring approach comprises a correlation

similarity scoring approach (See for example: Section 2.1 Memory-Based Algorithms).

Claims 10 and 11, 13, 14, 15 are rejected on grounds corresponding to the reasons given above for claims 1, 4, 5, 8, 9.

Claim 12 is rejected on grounds corresponding to the reasons given above for claims 2 and 3.

Claims 16, 17 are rejected on grounds corresponding to the reasons given above for claims 1, 6.

Claim 19 is rejected for the reasons set forth hereinabove for claim 1 and furthermore Breeese teaches a method wherein the similarity scoring approach comprises one of:

a likelihood similarity scoring approach (See for example: Section 2.3.1 Cluster Models), and .

a correlation similarity scoring approach (See for example: Section 4,1 Overall Performance, paragraphs 2 and 3).

Claims 20, 21, 23 are rejected on grounds corresponding to the reasons given above for claims 1, 6, 19.

3.   Claims 7, 18 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Breeese et al., "Breeese" (Empirical Analysis of Predictive Algorithms for Collaborative Filtering), further in view of Callaghan (U.S. Patent No. 5,937,397).

Claim 7 is rejected for the reasons set forth hereinabove for claim 1 and furthermore Breeese teaches a method wherein each record comprises a user, and each item comprises a web page (See for example: Section 2 Collaborative Filtering Algorithms, paragraph 2). However Breeese does not explicitly disclose a method comprising determining whether a particular user will view a particular web page.

Callaghan teaches a method comprising determining whether a particular user will view a particular web page (See for example: col. 1 lines 5-13; col. 3 lines 9-19).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to incorporate a method comprising determining whether a particular user will view a particular web page as disclosed by Callaghan into the method of predicting user vote for a particular item as disclosed in Breeese to provide a World Wide Web Automated Collaboration System (WACS) which provides, as a user "surfs" the Web, recommendations of URLs to go to from each displayed page and which URLs to avoid (col. 2 lines 18-22). One of ordinary skill in the art would be motivated to make the aforementioned combination with reasonable expectation of success.

Claims 18, 22 are rejected on grounds corresponding to the reasons given above for claim 7.
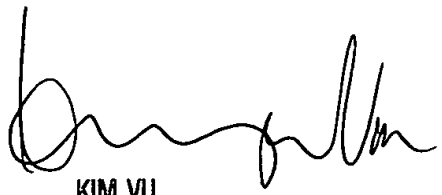
Conclusion

Any inquiry concerning this communication or earlier communications from the

examiner should be directed to GWEN LIANG whose telephone number is 703-305-3985. The

examiner can normally be reached on 9:00 A.M. - 5:30 P.M. Monday - Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, KIM VU can be reached on (703) 305-4393. The fax phone numbers for the

organization where this application or proceeding is assigned are 703-746-7239 for regular

communications and 703-746-7238 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding

should be directed to the receptionist whose telephone number is 703-305-3900.

G.L.

February 12, 2003

KIM VU

SUPERVISORY PATENT EXAMINER

TECHNOLOGY CENTER 2100